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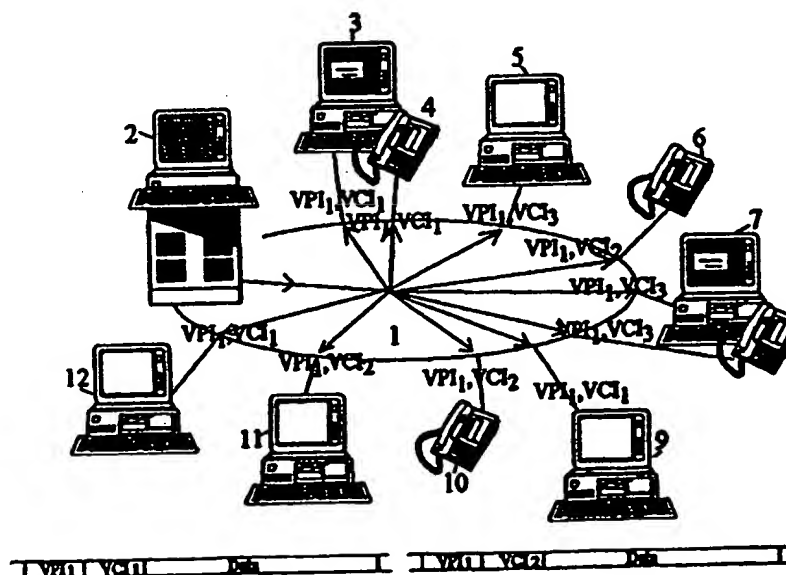
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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup> : <b>H04Q 11/04</b>	<b>A1</b>	(11) International Publication Number: <b>WO 99/38350</b> (43) International Publication Date: <b>29 July 1999 (29.07.99)</b>
<p>(21) International Application Number: <b>PCT/EP99/00314</b></p> <p>(22) International Filing Date: <b>18 January 1999 (18.01.99)</b></p> <p>(30) Priority Data: <b>1008106</b>                      <b>23 January 1998 (23.01.98)</b>                      <b>NL</b></p> <p>(71) Applicant (for all designated States except US): <b>KONINKLIJKE KPN N.V. [NL/NL]; Stationsplein 7, NL-9726 AE Groningen (NL).</b></p> <p>(72) Inventor; and (75) Inventor/Applicant (for US only): <b>VERVUURT, Fransiscus, Elisabeth, Willem [NL/NL]; Geuzenweg 225, NL-1221 BR Hilversum (NL).</b></p> <p>(74) Agent: <b>KLEIN, Bart; Koninklijke KPN N.V., P.O. Box 95321, NL-2509 CH The Hague (NL).</b></p>	<p>(81) Designated States: <b>AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</b></p> <p><b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p>	

(54) Title: ATM NETWORK



## (57) Abstract

ATM network comprising a physical network (1) with different stations. A stream of ATM cells is transferred from at least a source station (2) to a group of different destination stations (3...12), via a same virtual transmission path, which is characterised by ATM cells having the same "virtual path identifier". The virtual path (VPI<sub>1</sub>) comprises various virtual connections, each characterised by ATM cells having a same "virtual connection identifier", VCI. Furthermore, the group of destination stations is subdivided into various subgroups. The destination stations, which detect the VPIs and the VCIs of the ATM cells appearing at those stations, extract only those ATM cells having a VPI equal to the VPI of the virtual path of the group and a VCI equal to the VCI of the subgroup.

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

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1/ PR15

## ATM NETWORK

## BACKGROUND OF THE INVENTION

The invention relates to an ATM network, comprising a physical network with different stations, wherein a stream of ATM cells is transferred from at least a source station to a group of different destination stations via a same virtual transmission path between the source station and said different destination stations, which transmission path is characterised by ATM cells to which a certain "virtual path identifier", VPI, has been assigned.

Such a network is well known. Therefore, it relates to a point-multipoint (one source station, different destination stations) connection via an ATM network. Herewith "messages" are, by means of ATM cells, sent from at least one source station, to various destination stations. All ATM cells to which a certain VPI has been assigned, are sent by the physical network to all destination stations of one specific group of destination stations. Therefore, the group is also characterised by that VPI. Different source stations can send cells to the same group of destination stations or to different groups of destination stations. In bi-directional traffic a station functions alternately simultaneously as source or destination station.

## SUMMARY OF THE INVENTION

The invention provides that messages that are destined for a certain group of stations and which are transferred thereto via a virtual path, comprising of ATM cells to which the VPI of that virtual path has been assigned, are selectively extracted upon arrival by means of the "virtual connection identifier", VCI, of the ATM cells. In that way different subgroups can be formed within a same group of destination stations, characterised by the group VPI, which subgroups are each characterised by a subgroup VCI.

## EXEMPLARY EMBODIMENT

Figure 1 shows schematically an ATM network 1 to which a server 2 and a number of terminals 3-12 have been connected. All terminals shown there belong to the same group. From server 2 "messages" (data, voice, video) are sent to the terminals 3-12 by means of ATM cells to which a same "virtual path identifier" VPI, has been assigned. Terminals that are served via other paths (out of the same server or other servers) are not drawn in the figure. To the ATM cells is,

beside the  $VPI_1$ , also a "virtual connection identifier",  $VCI_1$ ,  $VCI_2$  or  $VCI_3$  assigned. In that way three subgroups are formed, viz. a subgroup A, formed by the terminals 3, 4, 9 and 12, a subgroup B, formed by the terminals 6, 10 and 11, and a subgroup C, consisting of the terminals 5, 7 and 8. All ATM cells with  $VPI_1$ , destined for terminals that belong to the group of terminals 3...12 which is served by the server 2, are routed by the network 1 to said terminals and appear therefore at all said terminals 3...12. There the VCI values of the cells are investigated. The terminals of subgroup A extract from the cell stream offered only those ATM cells to which  $VCI_1$  has been assigned, the terminals of subgroup B the cells to which  $VCI_2$  has been assigned and the terminals of subgroup C only those to which  $VCI_3$  has been assigned. In that way the subgroups are formed without having to define separate virtual paths for it.

Below in figure 1 a number of two ATM cells has been schematically depicted, each having a VPI and a VCI in the header. When the leftmost cell appears at the entrances of the terminals, transferred out of the server 2 via virtual path with  $VPI_1$ , said cell will be extracted exclusively by the terminals of subgroup A ( $VCI = VCI_1$ ). The rightmost cell will only be extracted by terminals of subgroup B ( $VCI = VCI_2$ ). It is noted that, where in the above embodiment for the sake of clarity a network having unidirectional traffic is shown, viz. from the server 2 to the terminals 3...12, the invention is not restricted to unidirectional traffic. At another moment, or simultaneous with the traffic out of the server 2 to the terminals 3...12, the terminals can also send cells. In that case, such a terminal functions as a source station, just as in the preceding the server 2 does. ATM cells can be sent by that source station via a virtual path with a specific VPI, to a group of receiving destination stations. Subgroups can then also be formed by means of assigning of different VCIs to the cells to be sent, whereby said cells are selected by the terminals, which belong to different subgroups, on the basis of their different VCI values.

## CLAIMS

1. ATM network, comprising a physical network (1) with different stations, wherein a stream of ATM cells is transferred from at least one source station (2) to a group of different destination stations (3...12) via a virtual transmission path between the source station and said different destination stations, which virtual transmission path is characterised by ATM cells to which a certain "virtual path identifier", VPI, has been assigned, characterised in that the virtual path (VPI<sub>1</sub>) comprises various virtual connections, each characterised by ATM cells to which a certain "virtual connection identifier", VCI, has been assigned, in that furthermore the said group of destination stations is subdivided into various subgroups, and in that the destination stations, which detect the VPIs and the VCIs of the ATM cells appearing at those stations, accept only those ATM cells to which a VPI has been assigned equal to the VPI of the said virtual path of the group of destination stations and a VCI equal to the VCI of the virtual connection of the subgroup of destination stations.

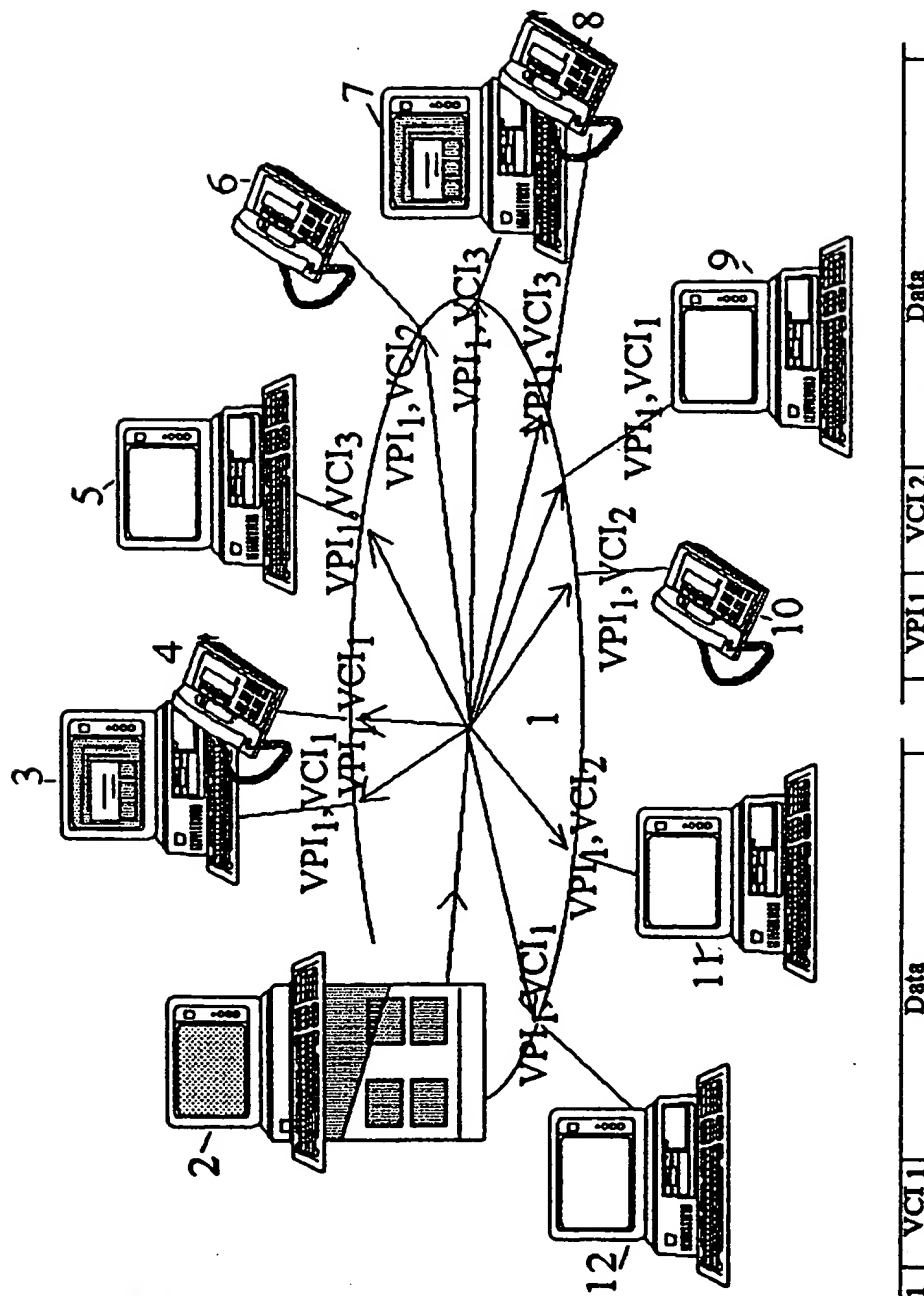


FIG. 1

VPI1	VCI1	Data	VPI1	VCI2	Data
------	------	------	------	------	------

KINGDOM OF THE (crest) NETHERLANDS

PATENT OFFICE

This certifies that in the Netherlands, on 23 January 1998, a patent application was filed under number 1008106, in the name of:

**Koninklijke PTT Nederland N.V.**

of Groningen

for: "ATM Network."

and that the documents attached hereto are in accordance with the documents originally submitted and that, as may be seen from a deed filed with the Netherlands Patent Office on 4 September 1998 under number No.35328, the applicant has changed its name to:

**KONINKLIJKE KPN N.V.**

of Groningen

Rijswijk, 13 January 1999.

On behalf of the Chairman of the Patent Office,

(signature)

A.W. van der Kruk



## PATENT COOPERATION TREATY

JSDN SUP.

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

Klein, Bart  
KONINKLIJKE KPN N.V.  
P.O. Box 95321  
NL-2509 CH Den Haag  
PAYS-BAS

PCT

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing  
(day/month/year)

18.04.2000

Applicant's or agent's file reference  
402444WO

## IMPORTANT NOTIFICATION

International application No.  
PCT/EP99/00314

International filing date (day/month/year)  
18/01/1999

Priority date (day/month/year)  
23/01/1998

Applicant  
KONINKLIJKE KPN N.V.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

## 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized officer

Gazzoli, M

Tel. +49 89 2399-2815



# TENT COOPERATION TRE

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
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in its capacity as elected Office

Date of mailing: 29 July 1999 (29.07.99)	
International application No.: PCT/EP99/00314	Applicant's or agent's file reference: 402444WO
International filing date: 18 January 1999 (18.01.99)	Priority date: 23 January 1998 (23.01.98)
Applicant: VERVUURT, Fransiscus, Elisabeth, Willem	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International preliminary Examining Authority on:  
19 May 1999 (19.05.99)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer:  J. Zahra Telephone No.: (41-22) 338.83.38
---	---

## PATENT COOPERATION TREATY

From the RECEIVING OFFICE

PCT

To:

KLEIN, Bart  
 KONINKLIJKE KPN N.V.  
 P.O. Box 95321  
 NL-2509 CH Den Haag  
 PAYS-BAS

NOTIFICATION OF THE INTERNATIONAL  
 APPLICATION NUMBER AND OF THE  
 INTERNATIONAL FILING DATE

**PCT/EP 99/00314**  
 (PCT Rule 20.5(c))

Date of mailing  
 (day/month/year)

31.03.99

Applicant's or agent's file reference

402444W0

IMPORTANT NOTIFICATION

International application No.

PCT/EP 99/00314

International filing date (day/month/year)

18/01/1999

Priority date (day/month/year)

23/01/1998

Applicant

KONINKLIJKE KPN N.V.

Title of the invention

1. The applicant is hereby notified that the international application has been accorded the international application number and the international filing date indicated above.
2. The applicant is further notified that the record copy of the international application was transmitted to the International Bureau on the above date of mailing.
3. ☐ Other:

\* The International Bureau monitors the transmittal of the record copy by the receiving Office and will notify the applicant (with Form PCT/IB/301) of its receipt. Should the record copy not have been received by the expiration of 14 months from the priority date, the International Bureau will notify the applicant (Rule 22.1(c)).

Name and mailing address of the receiving Office



European Patent Office, P.B. 5818 Patentlaan 2  
 NL-2280 HV Rijswijk  
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
 Fax: (+31-70) 340-3016

Authorized officer

*G. van Amstel*

The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/ EP

# PCT

## CHAPTER II

### DEMAND

under Article 31 of the Patent Cooperation Treaty:  
The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty and hereby elects all eligible States (except where otherwise indicated).

For International Preliminary Examining Authority use only

Identification of IPEA		Date of receipt of DEMAND	
<b>Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION</b>		Applicant's or agent's file reference 402444WO	
International application No. PCT/EP99/00314	International filing date (day/month/year) 18 JAN 1999 (18.01.99)	(Earliest) Priority date (day/month/year) 23 JAN 1998 (23.01.98)	
Title of invention ATM Network			
<b>Box No. II APPLICANT(S)</b>			
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)  KONINKLIJKE KPN N.V.  7 Stationsplein 9726 AE GRONINGEN The Netherlands		Telephone No.: +31 70 3323678	
		Facsimile No.: +31 70 3323840	
		Teleprinter No.:	
State (that is, country) of nationality: NL		State (that is, country) of residence: NL	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)  VERVUURT Franciscus Elisabeth Willem Geuzenweg 225 2112 BR HILVERSUM The Netherlands			
State (that is, country) of nationality: NL		State (that is, country) of residence: NL	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)			
State (that is, country) of nationality:		State (that is, country) of residence:	
<input type="checkbox"/> Further applicants are indicated on a continuation sheet.			

**Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE**

The following person is ☒ agent ☐ common representative  
 and ☐ has been appointed earlier and represents the applicant(s) also for international preliminary examination.  
☒ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.  
☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*

KLEIN, Bart

KONINKLIJKE KPN N.V.  
 P.O. BOX 95321  
 NL-2509 CH THE HAGUE  
 The Netherlands

Telephone No.:

+31 70 3323678

Facsimile No.:

+31 70 3323840

Teleprinter No.:

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

**Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION****Statement concerning amendments:\***

1. The applicant wishes the international preliminary examination to start on the basis of:

☒ the international application as originally filed

the description ☒ as originally filed  
☐ as amended under Article 34

the claims ☒ as originally filed  
☐ as amended under Article 19 (together with any accompanying statement)  
☐ as amended under Article 34

the drawings ☒ as originally filed  
☐ as amended under Article 34

2. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.

3. ☐ The applicant wishes the start of the international preliminary examination to be postponed until the expiration of 20 months from the priority date unless the International Preliminary Examining Authority receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)). *(This check-box may be marked only where the time limit under Article 19 has not yet expired.)*

• Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination: English

- ☒ which is the language in which the international application was filed.  
☐ which is the language of a translation furnished for the purposes of international search.  
☐ which is the language of publication of the international application.  
☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.

**Box No. V ELECTION OF STATES**

The applicant hereby elects all eligible States *(that is, all States which have been designated and which are bound by Chapter II of the PCT)*

excluding the following States which the applicant wishes not to elect:

**Box No. VI CHECK LIST**

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

- |  |   |        |
|--|---|--------|
| 1. translation of international application                              | : | sheets |
| 2. amendments under Article 34   | : | sheets |
| 3. copy (or, where required, translation) of amendments under Article 19 | : | sheets |
| 4. copy (or, where required, translation) of statement under Article 19  | : | sheets |
| 5. letter  | : | sheets |
| 6. other (specify)   | : | sheets |

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received not received

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
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The demand is also accompanied by the item(s) marked below:

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> fee calculation sheet  | 4. <input type="checkbox"/> statement explaining lack of signature                                  |
| 2. <input type="checkbox"/> separate signed power of attorney                                       | 5. <input type="checkbox"/> nucleotide and or amino acid sequence listing in computer readable form |
| 3. <input checked="" type="checkbox"/> copy of general power of attorney; reference number, if any: | 6. <input checked="" type="checkbox"/> other (specify): see continuation sheet                      |

**Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE**

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).



Bart KLEIN

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):

3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply.

☐ The applicant has been informed accordingly.

4. ☐ The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5.

5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.

For International Bureau use only

Demand received from IPEA on:

## PCT

## FEE CALCULATION SHEET

Annex to the Demand for international preliminary examination

International application No. <b>PCT/EP99/00314</b> Applicant's or agent's file reference <b>402444WO</b>	For International Preliminary Examining Authority use only Date stamp of the IPEA								
Applicant <div style="text-align: center; font-weight: bold;">KONINKLIJKE KPN N.V.</div>									
<b>Calculation of prescribed fees</b>  1. Preliminary examination fee ..... <span style="border: 1px solid black; padding: 2px 10px;">DEM 3000</span> <span style="border: 1px solid black; padding: 2px 5px; float: right;">P</span>  2. Handling fee <i>(Applicants from certain States are entitled to a reduction of 75% of the handling fee. Where the applicant is (or all applicants are) so entitled, the amount to be entered at H is 25% of the handling fee.)</i> ..... <span style="border: 1px solid black; padding: 2px 10px;">DEM 285</span> <span style="border: 1px solid black; padding: 2px 5px; float: right;">H</span>  3. Total of prescribed fees Add the amounts entered at P and H and enter total in the TOTAL box ..... <span style="border: 1px solid black; padding: 5px; display: inline-block; text-align: center;">DEM 3285 TOTAL</span>									
<b>Mode of Payment</b> <table style="width: 100%;"> <tr> <td><input checked="" type="checkbox"/> authorization to charge deposit account with the IPEA (see below)</td> <td><input type="checkbox"/> cash</td> </tr> <tr> <td><input type="checkbox"/> cheque</td> <td><input type="checkbox"/> revenue stamps</td> </tr> <tr> <td><input type="checkbox"/> postal money order</td> <td><input type="checkbox"/> coupons</td> </tr> <tr> <td><input type="checkbox"/> bank draft</td> <td><input type="checkbox"/> other (specify):</td> </tr> </table>		<input checked="" type="checkbox"/> authorization to charge deposit account with the IPEA (see below)	<input type="checkbox"/> cash	<input type="checkbox"/> cheque	<input type="checkbox"/> revenue stamps	<input type="checkbox"/> postal money order	<input type="checkbox"/> coupons	<input type="checkbox"/> bank draft	<input type="checkbox"/> other (specify):
<input checked="" type="checkbox"/> authorization to charge deposit account with the IPEA (see below)	<input type="checkbox"/> cash								
<input type="checkbox"/> cheque	<input type="checkbox"/> revenue stamps								
<input type="checkbox"/> postal money order	<input type="checkbox"/> coupons								
<input type="checkbox"/> bank draft	<input type="checkbox"/> other (specify):								
<b>Deposit Account Authorization</b> <i>(this mode of payment may not be available at all IPEAs)</i> The IPEA/ EP <input checked="" type="checkbox"/> is hereby authorized to charge the total fees indicated above to my deposit account.  <input checked="" type="checkbox"/> <i>(this check-box may be marked only if the conditions for deposit accounts of the IPEA so permit)</i> is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.									
28090011 Deposit Account Number	7 May 1999 Date (day/month/year)								
<div style="text-align: right;">           Signature <b>Bart Klein</b> </div>									

## PATENT COOPERATION TREATY

14 JUL 1999

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT  
OR THE DECLARATION

(PCT Rule 44.1)

To:

KONINKLIJKE KPN N.V.  
Attn. Klein, Bart  
P.O. Box 95321  
NL-2509 CH Den Haag  
NETHERLANDSDate of mailing  
(day/month/year)

13/07/1999

Applicant's or agent's file reference

402444W0

FOR FURTHER ACTION

See paragraphs 1 and 4 below

International application No.

PCT/EP 99/00314

International filing date  
(day/month/year)

18/01/1999

Applicant

KONINKLIJKE KPN N.V. et al.

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland  
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority

European Patent Office, P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Theresia Van Deursen



## NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

### INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

#### What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

#### When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

#### Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

#### How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

#### What documents must/may accompany the amendments?

##### Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

## NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:  
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:  
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:  
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or  
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:  
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

### "Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

### Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

### Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

1 **ALLGEMEINE VOLLMACHT**  
**GENERAL AUTHORISATION**  
**POUVOIR GENERAL**

Nr. der allgemeinen Vollmacht / General Authorisation No.  
N° du pouvoir général

21396 (rev.)

2 Ich (Wir) / I (We) / Je (Nous)

Koninklijke KPN N.V.  
Stationsplein 7  
9726 AE GRONINGEN  
The Netherlands

3 bevollmächtigte(n) hiermit / do hereby authorise / autorise (autorisons) par la présente

KLEIN, Bart (Professional Representative)

mailing address: Koninklijke KPN N.V.  
Intellectual Property Group  
P.O. Box 95321  
2509 CH THE HAGUE  
The Netherlands

4 mich (uns) in den durch das Europäische PatentÜbereinkommen geschaffenen Verfahren in allen meinen (unseren) Patentangelegenheiten zu vertreten  
alle Handlungen für mich (uns) vorzunehmen und Zahlungen für mich (uns) in Empfang zu nehmen.  
to represent me (us) in all proceedings established by the European Patent Convention and to act for me (us) in all patent transactions and to receive  
payments on my (our) behalf.  
à me (nous) représenter pour ce qui concerne toutes mes (nos) affaires de brevet dans toute procédure instituée par la Convention sur le brevet européen  
et, à ce titre, à agir en mon (notre) nom et à recevoir des paiements pour mon (notre) compte.

☒ Die Vollmacht gilt auch für Verfahren nach dem Vertrag über die internationale Zusammenarbeit auf dem Gebiet des Patentwesens.  
This authorisation shall also apply to the same extent to any proceedings established by the Patent Cooperation Treaty.  
Ce pouvoir s'applique également à toute procédure instituée par le Traité de coopération en matière de brevets.

☐ Weitere Vertreter sind auf einem gesonderten Blatt angegeben. / Additional representatives indicated on supplementary sheet.  
Les autres mandataires sont mentionnés sur une feuille supplémentaire.

5 ☒ Untervollmacht kann erteilt werden. / Sub-authorisation may be given. / Le pouvoir pourra être délégué.

6 ☒ Bitte die gelbe Kopie, ergänzt um die Nr. der allgemeinen Vollmacht, an den Vollmachtgeber zurücksenden.  
Please return the yellow copy, supplemented by the General Authorisation No., to the authorisor.  
Prière de renvoyer la copie jaune au mandant, munie du n° du pouvoir général.

Ort / Place / Lieu The Hague

Datum / Date September 01, 1998

Unterschrift(en) / Signature(s)

KLEIN, Bart (Professional Representative)

7 Das Formblatt muß vom (von den) Vollmachtgeber(n) (bei juristischen Personen vom Unterschriftsberechtigten) eigenhändig unterzeichnet sein. Nach der Unterschrift bitte  
(die) Namen des (der) Unterzeichneten mit Schreibmaschine wiederholen (bei juristischen Personen die Stellung des Unterschriftsberechtigten innerhalb der Gesellschaft  
angeben).  
The form must bear the personal signature(s) of the authorisor(s) (in the case of legal persons, that of the officer empowered to sign). After the signature, please type the name  
of the signatory(ies) adding, in the case of legal persons, his (their) position within the company.  
Le formulaire doit être signé de la propre main du (des) mandant(s) (dans le cas de personnes morales, de la personne ayant qualité pour signer). Veuillez ajouter à la machine  
après la signature, le (les) nom(s) du (des) signataire(s) en mentionnant, dans le cas de personnes morales, ses (leurs) fonctions au sein de la société.

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 402444WO	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP99/00314	International filing date (day/month/year) 18/01/1999	Priority date (day/month/year) 23/01/1998
International Patent Classification (IPC) or national classification and IPC H04Q11/04		
Applicant KONINKLIJKE KPN N.V.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 6 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  11/05/1999	Date of completion of this report  18.04.2000
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Le Bras, P  Telephone No. +49 89 2399 8819 

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/EP99/00314

**I. Basis of the report**

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

**Description, pages:**

1-2 as originally filed

**Claims, No.:**

1 as originally filed

**Drawings, sheets:**

1/1 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/EP99/00314

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1
Industrial applicability (IA)	Yes:	Claims	1
	No:	Claims	

**2. Citations and explanations**

**see separate sheet**

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**Re Item V**

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: JP-A-08 32601

2. Claim 1 of the present application does not comply with the requirements of Article 33(3) PCT for the following reasons:

D1 discloses an ATM network wherein the same basic principle as that of claim 1 is used in the following manner:

D1, fig.1, refs. 3, 4a discloses an ATM network (image distribution network) between at least a source station ( in D1: image information distribution node) and a group of different destinations stations (in D1: subscriber accommodation nodes) is a point to multipoint ATM network). The transmission between the source and the destinations is set in a point to multipoint manner (see D1, col.10, l.39-42) using virtual path identifiers (VPI) and virtual connection identifiers (VCI), the virtual path comprising various virtual connections, each characterized by ATM cells to which a certain VCI has been assigned, in that the destination stations (in D1 the subscriber accommodation nodes) are subdivided into various subgroups and in that the destinations stations (in D1 the subscriber accommodation nodes) which detect the VPIs and the VCIs of the ATM cells appearing at those stations accept only those cells to which a VPI has been assigned equal to the VPI of the virtual path of the group of destination stations (in D1 the subscriber accommodation nodes) and a VCI equal to the VCI of the virtual connection of the subgroup of destination stations (see D1, col.10, l.39-col.11,l.7).

The difference between the subject-matter of claim 1 and D1 lies in that the principle is used between nodes in D1 whereas it is used between station in claim 1. This difference does not involve an inventive step since it does not provide to the claimed network any special or unexpected effect over the prior art.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/EP99/00314

The applicant failed to provide arguments on which the assumption of an inventive step could be based.



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/EP99/00314

**Re Item VII**

Certain defects in the international application

1. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein.

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>402444W0</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/EP 99/ 00314</b>	International filing date (day/month/year) <b>18/01/1999</b>	(Earliest) Priority Date (day/month/year) <b>23/01/1998</b>
Applicant <b>KONINKLIJKE KPN N.V. et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

## 4. With regard to the title,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

**ATM NETWORK**

## 5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

## 6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1

☐ None of the figures.

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 6 H04Q11/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 08 032601 A (HITACHI LTD) 2 February 1996 -& US 5 757 798 A (HITACHI LTD) 26 May 1998 see abstract see column 12, line 21-34 see column 13, line 36 ---	1
A	TODE H ET AL: "MULTICAST ROUTING SCHEME ADEQUATE FOR VIRTUAL PATH ENVIRONMENT" ELECTRONICS & COMMUNICATIONS IN JAPAN, PART I - COMMUNICATIONS, vol. 78, no. 1, 1 January 1995, pages 39-49, XP000544990 see abstract see page 39, right-hand column, line 16-24 see paragraph 2.2 --- -/--	1

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

1 July 1999

Date of mailing of the international search report

13/07/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Dhondt, E

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	NACHUM SHACHAM: "MULTIPOINT COMMUNICATION BY HIERARCHICALLY ENCODED DATA*" ONE WORLD THROUGH COMMUNICATIONS, FLORENCE, MAY 4 - 8, 1992, vol. 3, no. CONF. 11, 1 January 1992, pages 2107-2114, XP000300338 INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS see page 2107, right-hand column, line 4-12 -----	1
A	EP 0 707 430 A (NIPPON ELECTRIC CO) 17 April 1996 see abstract see column 3, line 5-10 -----	1

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 99/00314

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 08032601	A	02-02-1996	CN 1122086 A	08-05-1996
			US 5757798 A	26-05-1998
-----				
EP 0707430	A	17-04-1996	JP 2571025 B	16-01-1997
			JP 8111670 A	30-04-1996
			US 5600469 A	04-02-1997
-----				